

What is claimed is:

1. A fuel cell comprising:

a pair of separators sandwiching [clamping] outsides of a pair of electrodes provided on both sides of a solid polymer electrolyte membrane [film]; and

a nonconductive picture frame-shaped member allowing increase and decrease of a space between separators while a sealing space is provided between adjacent separators at the outer edge of said separator.

2. A fuel cell according to claim 1, wherein said picture frame-shaped members are constituted so as to be able to slide relative to each other.

3. A fuel cell according to claim 1, wherein said separator is made of a metal, and said picture frame-shaped member is formed of a hard material and a elastic material.

4. A fuel cell according to claim 1, wherein said picture frame-shaped member has a separator positioning device.

5. A fuel cell stack formed by stacking a plurality of unit fuel cells according to claim 1, wherein peripheral end surfaces of said separators are covered by said picture frame-shaped member.

6. A fuel cell according to claim 1, further comprising a reaction surface peripheral sealing member which surrounds a reaction surface of said separator, and the outside portion of said reaction surface peripheral sealing member is covered by an insulating

outer edge member.

7. A fuel cell according to claim 6, wherein both outside surfaces of said reaction surface peripheral sealing member is totally covered by an insulating outer edge member which is integrally formed with said reaction surface peripheral sealing member.

8. A fuel cell according to claim 7, wherein one of said reaction surface peripheral sealing member of adjacent separators is formed in a flat shape, and the other reaction surface peripheral sealing member which faces to said flat reaction surface peripheral sealing member is formed so as to protrude.

9. A fuel cell stack formed by stacking a plurality of unit fuel cells according to claim 8, wherein said picture frame-shaped members allow increase or decrease of spaces between separators, while sealing the space between respective separators.

10. A fuel cell comprising a pair of separators sandwiching a pair of electrodes formed on both surfaces of a solid polymer electrolyte membrane, insulating members are provided around communication holes formed in said separators, so as to form each space between each two insulating members.

11. A fuel cell according to claim 10, wherein a space is provided between each two of said insulating members of the adjacent separators in the stacking direction of the separators.

12. A fuel cell according to claim 11, wherein respective insulating members of

respective adjacent separators are formed such that adjacent separators are capable of relatively sliding so as to allow increase and decrease of the space between separators while said insulating members are sealing the spaces between separators.

13. A fuel cell according to claim 12, wherein said insulating members are made of an elastic material.

14. A fuel cell according to claim 13, wherein inner peripheral surfaces of the communication holes are covered by the insulating member.

15. A fuel cell according to claim 14, wherein one of the insulating members of one of adjacent separators is formed in a flat shape, and another one of the insulating member of another one of adjacent separators facing to said one of the flat insulating member is formed in a protruded shape.

16. A fuel cell according to claim 15, comprising a reaction surface peripheral sealing members surrounding the reaction surfaces of said separator, wherein one of the reaction surface peripheral sealing member of one separators among adjacent separator is formed in a flat shape, while another one of the reaction surface peripheral sealing member of another separators facing to said flat reaction surface peripheral member is formed in a protruded shape.

17. A fuel cell according to claim 16, wherein the outside portion of said reaction surface peripheral sealing member is totally covered by said insulating member.

18. A fuel cell according to claim 17, wherein said reaction surface peripheral sealing member and said insulating member are integrally formed.

19. A fuel cell according to claim 18, wherein both outside surfaces of said reaction surface peripheral sealing member are totally covered by the insulating member which is integrally formed with said reaction surface peripheral sealing member.